

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 1. (Previously presented) An information recording and reproducing
2 apparatus which irradiates an information recording medium with oscillated laser light to form a
3 recorded region in a recording area on the information recording medium, said recorded region
4 being physically different from the region where information has not been recorded, so that
5 information can be recorded onto the information recording medium and reproduced or erased
6 therefrom, said apparatus comprising:
7 a detecting circuit configured to detect amplitude information from a reproduced
8 signal formed by the oscillated laser light;
9 a converting circuit configured to convert the detected amplitude information to a
10 digital signal; and
11 a calculating circuit configured to calculate on the digital signal such that a
12 recording condition of the oscillated laser light is adapted;
13 wherein the recording condition is previously recorded on the recording medium,
14 the recording condition including a linear recording velocity of the oscillated laser light, a
15 recording power of the oscillated laser light, amplitude information of the reproduced signal, an
16 asymmetry of the recording power, a change ratio of the amplitude information to the recording
17 power of the oscillated laser light, and a change ratio of the amplitude information to the linear
18 recording velocity, and
19 wherein the recording power for information recording and reproducing is
20 adapted by using the recording condition recorded on the recording medium as amplitude
21 information of the reproduced signal and the change ratio of the amplitude information to the
22 recording power.

1 2. (Previously presented) The information recording and reproducing
2 apparatus according to Claim 1, wherein the recording condition is adapted for a linear recording
3 velocity by:

4 reading from the recording medium the recording condition recorded on the
5 recording medium as amplitude information of the reproduced signal and the change ratio of the
6 amplitude information to the recording power;

7 calculating a recording condition appropriate for the linear recording velocity by
8 using amplitude information of the reproduced signal associated with at least two linear
9 recording velocities and the change ratio of the amplitude information to the recording power;
10 and

11 setting the recording power accordingly for information recording and
12 reproducing at said linear recording velocity.

1 3. (Previously presented) The information recording and reproducing
2 apparatus according to Claim 1, wherein the recording condition is adapted by:

3 reading from the recording medium the recording condition recorded on the
4 recording medium as amplitude information of the reproduced signal and the change ratio of the
5 amplitude information to the recording power;

6 before recording normal information, obtaining the change ratio of the amplitude
7 information to the recording power, which is appropriate to the apparatus; and

8 during recording normal information, adapting the recording power for
9 information recording and reproducing by using the obtained change ratio of the amplitude
10 information to the recording power.

1 4. (Previously presented) The information recording and reproducing
2 apparatus according to Claim 1, wherein the recording condition is adapted for a linear recording
3 velocity by:

4 reading from the recording medium the recording condition recorded on the
5 recording medium as amplitude information of the reproduced signal and the change ratio of the
6 amplitude information to the recording power;

7 before recording normal information, obtaining the change ratio of the amplitude
8 information to the recording power for at least two linear recording velocities, which is
9 appropriate to the apparatus;

10 calculating a recording condition appropriate for said linear recording velocity by
11 using the obtained change ratios; and

12 during recording normal information, adapting the recording power for
13 information recording and reproducing by using the obtained change ratio of the amplitude
14 information to the recording power.

1 5. (Currently amended) [[An]]A computer-readable information recording
2 medium in which information can be recorded onto the information recording medium and
3 reproduced or erased therefrom by irradiating the information recording medium with oscillated
4 laser light to form a recorded region in a recording area on the information recording medium,
5 said recorded region being physically different from the region where information has not been
6 recorded,

7 wherein:

8 a recording condition comprising at least a linear recording velocity,
9 recording power and amplitude information of the reproduced signal is previously
10 recorded; and

11 information about the change ratio of the amplitude information to the
12 recording power at said linear recording velocity is previously recorded.

1 6. (Currently amended) [[An]]A computer-readable information recording
2 medium in which information can be recorded onto the information recording medium and
3 reproduced or erased therefrom by irradiating the information recording medium with oscillated
4 laser light to form a recorded region in a recording area on the information recording medium,
5 said recorded region being physically different from the region where information has not been
6 recorded,

7 wherein:

8 a recording condition comprising at least a plurality of linear recording
9 velocities, a plurality of recording powers and a plurality of pieces of amplitude
10 information of the reproduced signal is previously recorded; and

11 information about the change ratio of the amplitude information to the
12 recording power at each of the plurality of linear recording velocities is previously
13 recorded.

1 7. (Currently amended) [[An]]A computer-readable information recording
2 medium in which information can be recorded onto the information recording medium and
3 reproduced or erased therefrom by irradiating the information recording medium with oscillated
4 laser light to form a recorded region in a recording area on the information recording medium,
5 said recorded region being physically different from the region where information has not been
6 recorded,

7 wherein:

8 a recording condition comprising at least a plurality of linear recording
9 velocities, a plurality of recording powers and a plurality of pieces of amplitude
10 information of the reproduced signal is previously recorded; and

11 information about the change ratio of the amplitude information to the
12 recording power at a linear recording velocity in the recording-possible linear recording
13 velocity range and information about the change ratio of the amplitude information to the
14 linear recording velocity in the recording-possible linear recording velocity range are
15 previously recorded.